

## REMARKS

Claims 5-25 are currently in the present application. Claims 5-14 are rejected, while new claims 15-25 have been added.

### Rejection of Claim 9 as Indefinite

Claim 9 has been amended to delete the first occurrence of “solids”, as suggested by the Examiner, thereby obviating the rejection of claim 9 under Section 112 as being indefinite. Claims 10 and 11 have been also amended in the manner of claim 9.

### Rejection of Claims 5, 6, 9-10 and 12-14 as Anticipated

Claims 5, 6, 9-10 and 12-14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Yamada Nobuo (JP 6-128890).

The present invention is directed to a method for solving the problem of discoloration of mechanical pulp over time by providing a significant and permanent anti-fading effect (page 8, lines 15-25 of the present specification). Applicants have discovered that by subjecting a bleached mechanical pulp to irradiation with UV and/or visible light in presence of at least one compound selected from the group consisting of reducing agents, peroxides and hydrogen-donating organic compounds, a significant and permanent anti-fading effect is provided to the pulp so treated. The anti-fading effect is graphically demonstrated in Figures 1-4, which show that when samples of pulp produced by the method of the present invention are irradiated in a fading test, the samples showed very little discoloration over time. In particular, samples irradiated for 40 minutes show very little discoloration and a significant brightness difference as compared with blanks after being tested for fading for 2 hours (page 19, lines 20-27).

Unlike the method of claim 5, Yamada Nobuo relates to a method for bleaching cellulose pulp with a peroxide added to the pulp slurry and then the pulp slurry is irradiated with UV. Yamada Nobuo does not disclose irradiation of a pulp containing a bleached mechanical pulp. Moreover, the purpose of the Yamada Nobuo method is to increase brightness of a pulp, not to produce a significant and permanent anti-fading effect as does Applicants' method.

Unlike the Yamada Nobuo method, the purpose of Applicant's claimed method is not to increase brightness of a pulp. In this regard, it is seen from Fig. 1 that the brightness of the pulp in Examples 1-3 of the present invention is slightly lower than that of Comparative Example 2 with no laser treatment. The brightness of the Examples shown at 0.0 of UV irradiation time (hr.) in Fig. 1 indicates that the brightness is greater for Comparative Example 2 than for Examples 1-3. Thus, the method of Yamada Nobuo does not teach nor render obvious the method of claim 5.

Additionally, there is no indication by Yamada Nobuo that the pulp used in the first step is bleached mechanical pulp, so that claim 5 and the claims dependent therefrom cannot be anticipated. In particular, there is no indication by Yamada Nobuo that any pulp listed in paragraph 0007, lines 1-2 is a bleached mechanical pulp when entering step 1. The statement "all pulp" is not the same as "all bleached pulp". Moreover, the mere fact that, possibly, bleached mechanical pulp could be present is not sufficient to rely on the doctrine of inherency, since it must be necessarily present or inherent to be an anticipation. *Novo Nordisk Pharm., Inc. v. Bio-Technology Gen. Corp.*, 424 F.3d 1347, 76 USPQ2d (BNA) 1811 (Fed. Cir. 2005).

### **Rejection of Claims 12-14 as Anticipated or Obvious**

Claims 12-14 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, obvious under 35 U.S.C. § 103(a) as obvious over Yamada Nobuo. Since claims 12 and 13 depend from claims 5 and 6, respectively, they cannot be anticipated for the reasons given above. Claim 14 depends from claim 7, which recites that the light is laser light, whose use is neither disclosed or suggested by Yamada Nobuo. Similarly, claims 12-14 cannot be obvious in view of Yamada Nobuo, whose objective is to increase brightness and not to produce a significant and permanent anti-fading effect.

As indicated above, Fig. 1 demonstrates that, contrary to Yamada Nobuo, the brightness using Applicant's process is lower, but provides anti-fading effects or discoloration with time. Accordingly, as explained in Applicant's specification (page 14, line 23 to page 16, line 6), although the anti-fading mechanism of Applicant's method is not known in detail, it is assumed to that quinones produced during bleaching are converted into a state that reacts with the reducing agents, peroxides and/or hydrogen-donating organic compounds to promote degradation of the coloring materials or that the aforesaid materials react with coloring materials, or the like. Regardless of the mechanism, the claimed method produces differences in the pulp product itself, as demonstrated by Fig. 1, thereby rendering product-by-process claims appropriate.

Accordingly, the rejection of claims 5, 6, 9-10 and 12-14 should be withdrawn.

### **Rejection of Claims 7, 8 and 11 as Obvious**

Claims 7, 8 and 11 is rejected under 35 U.S.C. § 103(a) as obvious over Yamada Nobuo as applied in the Section 102(b) rejection of claims 5 and 6, in view of Ouchi Akihiko (JP 2002-088673 A).

Yamada Nobuo has been discussed in detail above, and fails to disclose treatment of bleached mechanical pulp, and is silent as to providing significant and permanent anti-fading properties in his pulp, since he is interested in improving brightness in a bleaching process. Ouchi Akihiko is similarly defective, since he is also interested in bleaching pulp by using UV and visible laser light in the presence of hydrogen peroxide. Like Yamada Nobuo, Ouchi Akihiko is silent as to irradiating a pulp containing bleached mechanical pulp. Since neither Yamada Nobuo nor Ouchi Akihiko disclose laser irradiation of pulp containing bleached mechanical pulp, Ouchi Akihiko cannot remedy the deficiencies of Yamada Nobuo. Where a reference does not disclose a feature of a claim relied on to distinguish the prior art, it cannot suggest modifying the prior art to contain that feature, see *In re Civitello*, 144 USPQ 10 (CCPA 1964) wherein the CCPA stated:

Since Haslacher fails to disclose the feature of the claim relied on, we do not agree with the Patent Office that it would suggest modifying the Craig bag to contain that feature. The Patent Office finds the suggestion, only after making a modification which is not suggested, as we see it, by anything other than appellant's own disclosure. This is hindsight reconstruction. It does not establish obviousness. (Emphasis the Court's).

See also *In re Glass*, 176 USPQ 489 (1973) wherein the CCPA stated that it is error to ignore specific limitations distinguishing over the references. Moreover, since the objective of both Yamada Nobuo and Ouchi Akihiko is to improve brightness, which is not the anti-fading objective of Applicant's process, as demonstrated by Fig. 1-4 and Applicants' tests in the Examples, the combination of Yamada Nobuo and Ouchi Akihiko is not supportable. Accordingly, the rejection of claims 7, 8 and 11 should be withdrawn.

New dependent claims 15-17 have been added to emphasize the anti-fading effect provided by the Applicant's method. Support for such claims is found on page 8, lines 15-25, and page 20, lines 5-17, and elsewhere in Applicant's specification. New dependent claims 18-25 are directed to preferred embodiments. Support is found throughout the specification, including page 10, lines 26-28, and the paragraph bridging pages 11-12. Since all new claims

are dependent from claims believed to be allowable, the new claims are likewise believed to be allowable for the foregoing reasons, as well as the added features, which are not disclosed by the art relied on.

For the foregoing reasons, it is submitted that the claims are in condition for allowance. Such action is earnestly solicited.

Respectfully submitted,



David S. Abrams  
Reg. No. 22,576

Roylance, Abrams, Berdo & Goodman, L.L.P.  
1300 19th Street, N.W., Suite 600  
Washington, DC 20036  
(202)659-9076

Dated: December 22, 2006